

ATTORNEY DOCKET 678-1109 (P10973)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Chan-Soo HWANG, et al. Examiner: not yet known

Serial No.: not yet assigned Art Unit: not yet known

Filed: herewith Date: October 9, 2003

For: **TRANSMITTING AND RECEIVING APPARATUS FOR
SUPPORTING TRANSMIT ANTENNA DIVERSITY USING
SPACE-TIME BLOCK CODE**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

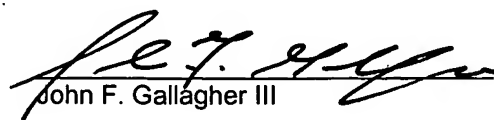
Sir:

Pursuant to Applicant(s) duty of disclosure, the information listed on the attached form PTO-1449 is brought to the attention of the Examiner. A copy of the listed items is enclosed.

The citation of the listed items is not a representation that they constitute a complete or exhaustive listing of the relevant art or that the references are prior art. The items listed are submitted in good faith, but are not intended to a substitute for the Examiner's search. It is hoped, however, that in addition to apprising the Examiner of these particular items, they will assist in identifying fields of search and in making as full and complete a search as possible.

CERTIFICATION UNDER 37 C.F.R. § 1.10

I hereby certify that this correspondence is being deposited with the United States Postal Service on this date October 9, 2003 in an envelope as "Express Mail Post Office to Addressee" Mail Label Number EV 333229179 US addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.


John F. Gallagher III

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The filing of this information disclosure statement is not an admission that the information cited herein is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

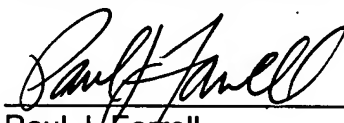
- ☒ This information disclosure statement is being filed within three (3) months of the filing date of this application.
- ☐ This information disclosure statement is being filed within three (3) months of the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application.
- ☐ To the best of Applicant(s) knowledge, this information disclosure statement is being filed before the date of mailing of a first Office Action on the merits in connection with this case.
- ☐ Enclosed herewith is a certificate under 37 C.F.R. § 1.97(e)(1).
- ☐ Enclosed herewith is a petition under 37 C.F.R. § 1.97(d)(ii).
- ☐ Enclosed by check is the petition fee of \$130.00. 37 C.F.R. § 1.17(i)(1))
- ☐ Please charge the **\$130.00** petition fee to Deposit Account No. **04-1121**.
- ☐ Enclosed by check is the **\$180.00** fee required by 37 C.F.R. § 1.17(p).
- ☐ Please charge the **\$180.00** fee required by 37 C.F.R. § 1.17(p) to Deposit Account No. **04-1121**.

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[X] Please charge any deficiency as well as any other fee(s) which may become due under 37 C.F.R. § 1.16 and/or 1.17 at any time during the pendency of this application, or credit any overpayment of such fee(s) to Deposit Account **04-1121**. Also, in the event any extensions of time for responding are required for the pending application(s), please treat this paper as a petition to extend the time as required and charge Deposit Account No. **04-1121** therefor.
TWO (2) COPIES OF THIS SHEET ARE ENCLOSED.

Early and favorable consideration of the case is respectfully requested.

Respectfully submitted,



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Form PTO-1449		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE			ATTY. DOCKET NO. 678-1109 (p10973)		SERIAL NO. not yet assigned	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)					APPLICANTS Chan-Soo HWANG, et al.			
					FILING DATE herewith		GROUP ART UNIT not yet known	
U.S. PATENT DOCUMENTS								
EXAMINE R INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE	
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)								
		1.	V. Tarokh, H. Jafarkhani, and A. R. Calderbank, "Space-Time Block Codes from Orthogonal Designs", IEEE Trans. Inform. Theory, vol. 45, pp. 1456-1467, July 1999					
		2.	A. Wittneben, "Base Station Modulation Diversity for Digital SIMULCAST", in proc. IEEE'VTC, May 1993, pp. 505-511					
		3.	G. G. Raleigh and V. K. Jones, "Multivibrate Modulation and Coding for Wireless Communication", IEEE J. Select. Areas. Commun., vol. 17, pp. 851-866, May 1999					
		4.	G. J. Foschini, Jr., "Layered Space-Time Architecture for Wireless Communications in a Fading Environment When Using Multi-element Antennas", Bell Labs Tech. J., pp. 41-59, Autumn 1996					
		5.	E. Telatar, "Capacity of Multi-Antenna Gaussian Channels", AT&T-Bell Laboratories, Internal Tech. Memo., June 1995 (28 pp)					
		6.	G. J. Foschini, Jr. and M. J. Gans, "On Limits of Wireless Communication in a Fading Environment When Using Multiple Antennas", Wireless Personal Commun., vol. 6, pp. 311-335, 1998					
		7.	V. Tarokh, N. Seshadri, and A. R. Calderbank, "Space-Time Codes for High Data Rate Wireless Communications: Performance Criterion and Code Construction", IEEE Trans. Inform. Theory, vol. 44, pp. 744-765, Mar. 1998					
		8.	S. M. Alamouti, "A Simple Transmit Diversity Technique for Wireless Communications", IEEE J. Select Areas Commun., vol. 16, pp. 1451-1458, Oct. 1998					
		9.	V. Tarokh, A. Naguib, N. Seshadri, and A. R. Calderbank, "Space-Time Codes for High Data Rate Wireless Communications: Performance Criteria in the Presence of Channel Estimation Errors, Mobility, and Multiple Paths", IEEE Trans. Inform. Theory, vol. 47, pp. 199-207, Feb. 1999					
EXAMINER					DATE CONSIDERED			
* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.								